



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,745	03/30/2001	Tom L. Blundell	620-139	4747

23117 7590 02/28/2005

NIXON & VANDERHYE, PC
1100 N GLEBE ROAD
8TH FLOOR
ARLINGTON, VA 22201-4714

EXAMINER

NASHED, NASHAAT T

ART UNIT	PAPER NUMBER
----------	--------------

1652

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,745

Applicant(s)

BLUNDELL ET AL.

Examiner

Nashaat T. Nashed, Ph. D.

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-8, 11 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-8, 11 and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1652

The application has been amended as requested in the communication filed December 22, 2004. Accordingly, claims 1-4, 9, 10, 12, and 13 have been canceled, new claims 14-16 have been entered, and claims 5 and 11 have been amended.

Claims 5-8, 11, and 14-16 are pending and under consideration.

The drawings filed December 22, 2004 are accepted by the examiner.

Applicant must perfect their compliance with the sequence rules, 37 CFR 1.821(a)(1) and (a)(2). Specifically, Figure 5 discloses several amino acid sequences, which are found in the sequence listing, but the sequence identification numbers are omitted from the Figure and the Figure description on page 14 of the specification. Applicants must insert the sequence identification number in either the figure description or file a new figure containing the sequence identification numbers. In addition, applicants must insert the sequence identification number after each occurrence of KPHMT.

Applicants assert that they do not understand the above objection to the sequence rules, as well as that they have amended the specification in the communication filed November 19, 2001.

Applicants' arguments have been fully considered, but they are found unpersuasive. The amendment filed November 19, 2001 has inserted the sequence identification numbers in the paragraph bridging pages 20 and 21. 37 CFR 1.821 (d) states:

"Where the description or claims of a patent application discuss a sequence that is set forth in the "Sequence Listing" in accordance with paragraph (c) of this section, reference must be made to the sequence by use of the sequence identifier, preceded by "SEQ ID NO:" in the text of the description or claims, even if the sequence is also embedded in the text of the description or claims of the patent application, underlining added for emphasis."

Clearly, Figure 5 compares several amino acid sequences, which are not identified by a sequence identification number in either the Figure itself or the Figure description. In addition, the atomic coordinates in Table 1 represent a disclosure of an amino acid sequence, and thus, a sequence identifier must accompany any amino acid residues in that Table at each occurrence including in new claim 15. Also, the protein, which has been crystallized, must be identified with a sequence identification number at each occurrence. If applicants remain unclear about any aspects of their compliance with the sequence rule, they should review 37 CFR 1.821 in MPEP, or contact the under signed examiner.

Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is

Art Unit: 1652

required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 5 from which claim 16 is dependent is limited to the atomic coordinates in Table 1. New claim 16 expands the scope of claim 5 to include atomic coordinates having backbone atoms varying by less than a root mean square deviation of 1.5 Angstrom units.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the commercial availability of computers and various software packages such as RASMOL, see the specification the paragraph bridging page 12 and 13, an admitted prior art, in view Jones *et al.* [IDS reference: J. Bacteriol. 1993, Vol. 175, pages 2125-2130] for the reasons set forth in the prior Office action mailed September 22, 2004.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the fact that homology modeling methods are well known in the prior art, see the specification on page 11, lines 23-25, in view Kurtov *et al.* [IDS reference: Mol. Gene. Genet. 1999, Vol. 262, pages 115-120] for the reasons set forth in the prior Office action mailed September 22, 2004.

Applicants argue that the rejection is fashioned after Case 6 and Case 7 in the Trilateral Report. Also, they argue that the atomic coordinates are novel product, and thus, a method of using a novel product should be unobvious and patentable subject matter over the prior art of record and cite *in re Ochiai*. In addition, they argue that the examiner has not established a *prima facie* case of obviousness and miss applied *in re Gulack*.

Applicants' arguments filed 12/22/04 have been fully considered, but they are found unpersuasive. Applicants are correct in that the above rejection is fashioned after the guidance set forth in the Trilateral Report which is a stated policy of the United States Patent and Trademark Office. Accordingly, atomic coordinates are defined as nonfunctional descriptive material, which was indicated in the prior Office action mailed September 22, 2004. *In re Ochiai* is irrelevant in this case because the facts are different. An organic acid is a chemical compound having specific properties and utility is a patentable subject matter by itself. Thus, a novel organic acid renders a method of

Art Unit: 1652

use unobvious. In contrast, the instant claim is directed to a method of using atomic coordinates, a nonfunctional descriptive material, which does not render a known method novel or unobvious. U. S. patents 6,589,758; 6,631,329; and 6,675,105 are issued patent and presumed valid under 35 U.S.C. 282, and are not currently under examination. Thus, they are irrelevant to the instant claims. In formulating the above rejection, the claims were considered as a whole including the atomic coordinates in Table 1. The guidance of the court *in re Gulack* clearly divides the printed material in two categories. The court writes:

"Where the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability. Although the printed matter must be considered, in that situation it may not be entitled to patentable weight. However, because we find that the digits of Gulack's invention are functionally related to the band, and because Wittcoff fails to disclose or suggest the subject matter recited in the appealed claims, considered as a whole, we reverse."

In the instant case, the printed material in table 1 was considered and found to be unrelated to the computer, the fitting algorithms or modeling algorithm needed to identify or design compounds. The computer and algorithms, which are known in the prior art, are functional with any set of atomic coordinates describing any protein, enzyme or DNA structure. The atomic coordinates in Table 1 do not modify the computer or algorithms in any way, and therefore, do not alter the claimed method. That is the reason why the atomic coordinates are considered "nonfunctional descriptive materials", and not given a patentable weight. New claims 15 and 16 are included in this rejection because they are dependent from claim 5 and directed specific limitation on the atomic coordinates. New claim 14 is directed to the same method of independent claim 5, but has somewhat broader scope. It is rejected for the same reasons set forth in rejecting claims 6 and 7 in the prior Office action, mailed September 22, 2004.

No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1652

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nashaat T. Nashed, Ph. D. whose telephone number is 571-272-0934. The examiner can normally be reached on MTTF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy can be reached on 571-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Nashaat T. Nashed, Ph. D.
Primary Examiner
Art Unit 1652